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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
RANISH, Joseph M.

Serial No.: 09/595,765

Filed: June 16, 2000

For: LAMPHEAD FOR A RAPID
THERMAL PROCESSING CHAMBER

Group Art Unit: 2875

Examiner: Bao Q. Truong

Attorney Docket No.: 003998
(10732-0044-999)

RESPONSE TO OFFICIAL ACTION MAILED JANUARY 22, 2002

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Applicants submit the following Amendment in response to the Office Action mailed January 22, 2002, in the above identified application.

Please amend the application as follows:

In the Specification:

Marked up versions of all revised paragraphs, showing insertions and deletions, are included in Appendix A.

Replace the paragraph at page 6, line 4, with the following text:

B₁
The separation between the substrate and reflector may be approximately 0.3 of an inch (7.6 mm), thus forming a cavity which has a width-to-height ratio of about 27. In processing systems that are designed for eight-inch silicon wafers, the distance between the substrate 106 and the reflector 102 is about 3 mm and 9 mm. The width-to-height ratio of the cavity 118 should be larger than about 20:1. If the separation is made too large, the emissivity-enhancement effect that is attributable to the virtual blackbody cavity that is formed will decrease. On the other hand, if the separation is too small, for example less than about 3mm, then the thermal conduction from the substrate to the cooled reflector will increase, thereby imposing an unacceptably large thermal load on the heated substrate, since

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